

VIA ELECTRONIC FILING

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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|---|---|------------------|
| In the Matter of |) | |
| |) | |
| |) | |
| Amendment of Part 101 of the Commission's Rules to |) | WT Docket 10-153 |
| Facilitate the Use of Microwave for Wireless Backhaul |) | |
| and Other Uses and to Provide Additional Flexibility to |) | |
| Broadcast Auxiliary Service and Operational Fixed |) | |
| Microwave Licenses (WT Docket No. 10-153). |) | |

**EX PARTE FILING OF WIRELESS STRATEGIES INC.
REGARDING THE SECOND FURTHER NOTICE OF PROPOSED RULE MAKING
AND SECOND NOTICE OF ENQUIRY WT DOCKET 10-153**

Wireless Strategies Inc. (WSI) hereby responds to the ex parte filing of the Fixed Wireless Communications Coalition, Inc. (FWCC) of February 7, 2013.

WSI's January 28, 2013 ex parte filing pointed out that existing Rules 101.103 and 101.115 already ensure that small antennas of any size can be safely deployed¹, and suggested adding a simple clarifying footnote to Rule 101.115: "Non-compliant antennas (antennas not meeting Category A specifications) ~~can be~~ are authorized on the condition that they must not cause harmful interference and must accept harmful interference pursuant to Rules 101.103 and 101.115 (c)."

In their filing, the FWCC not only did not refute this conclusion, but in the first two sentences of Section A they agreed with the underlying principle, stating: "*WSI's new footnote would assure that upgrades to a sub-Category A antenna would not cause, and must accept, harmful*

¹ See the decision diagrams in the Appendix

interference. But the possibility of such immediate interference has never been part of the FWCC's objection." What this means is that the FWCC agrees that the authorized radiation (at any angle) from any small (non-Standard A) antenna will not interfere with any existing station. In their third sentence the FWCC continues: *"Our concern, rather, is that WSI's proposed rule [Note: WSI only proposed a footnote to an existing rule] could require an incumbent to undergo a sequence of multiple upgrades, each one being a fresh opportunity to obstruct and delay new applicants."* Having agreed that small antennas can be safely deployed pursuant to WSI's footnote, and since our footnote simply references these rules and makes no change to them, the FWCC's concern is moot. Further, the FWCC raised this concern earlier² and the Commission replied by asking industry for examples.³ Not only has the FWCC failed to provide examples to show that this is a genuine/real-world problem, but no other entity has either.

In the last sentence of the second paragraph of Section B of their filing, the FWCC mistakenly states: *"The problem with this proposal is that an inferior [non-Standard A] antenna requires a higher transmitter power and distributes more of that power in directions away from the antenna axis. Even if the antenna does not cause interference to existing users, it 'sterilizes' a greater area against use by future applicants."* This assumption is false because Rule 101.115 prevents the radiated power -- at any angle, by an authorized station using a small (non-Standard A) antenna -- from blocking any new applicant paths or "sterilizing" an area.

For all the reasons above it is clear that the FWCC's filing is without merit and should be dismissed.

In conclusion, with the addition of a simple clarifying footnote to Rule 101.115 --

"Non-compliant antennas (antennas not meeting Category A specifications) ~~can be~~ are authorized on the condition that they must not cause harmful interference and must accept harmful interference pursuant to Rules 101.103 and 101.115 (c)."

² FWCC WT Docket 10-153 filing of December 11, 2011

³ WT Docket 101-153, Action by the Commission August 3, 2012, Second Report and Order, Second Further Notice of Proposed Rulemaking, Second Notice of Inquiry, Order on Reconsideration, and Memorandum Opinion and Order (FCC 12-87), paragraph 74

-- the Commission can achieve its goals of (a) allowing smaller antennas that will not cause harmful interference to new applicants or block new applicant paths, (b) improving and modernizing the Rules and increasing the flexibility of Part 101 to promote wireless backhaul, enterprise and consumer wireless broadband, and (c) taking a major step forward in making it economically viable for licensees and operators to provide broadband services to the approximately 106 million⁴ under-served subscribers deprived of truly competitive broadband, and the 23 million⁴ who remain completely un-served.

Respectfully submitted,

Michael Mulcay, Chairman

Wireless Strategies Inc.

PO Box 2500

Carmel Valley, CA 93924

April 2, 2013

⁴ Broadband Adoption and Take Rate Brief, Brian Webster Consulting

cc via email:

Julius Genachowski, Chairman
Robert McDowell, Commissioner
Mignon Clyburn, Commissioner
Jessica Rosenworcel, Commissioner
Adjit Pai, Commissioner
Zachary Katz, Chief of Staff to Chairman Genachowski
Charles Mathias, Special Council to Chairman Genachowski
Dave Grimaldi, Chief of Staff, Office of Commissioner Clyburn
David Goldman, Senior Legal Advisor to Commissioner Rosenworcel
Matthew Berry, Chief of Staff to Commissioner Pai
Ruth Milkman, Chief WTB
James Schlichting, Senior Deputy Chief WTB
John S. Leibovitz, Deputy Chief WTB
Tom Peters, Chief Engineer, WTB
Melissa Glidden Tye, Legal Advisor WTB
Blaise Scinto, Chief Broadband Division WTB
John Schauble, Deputy Chief Broadband Division WTB
Stephen Buenzow, Deputy Chief Broadband Division WTB
Charles Oliver, Attorney Advisor Broadband Division WTB
Brian Wondrack, Attorney Advisor Broadband Division WTB
Julius Knapp, Chief Office of Engineering Technology
Mitchell Lazarus, Counsel for the Fixed Wireless Communications Coalition

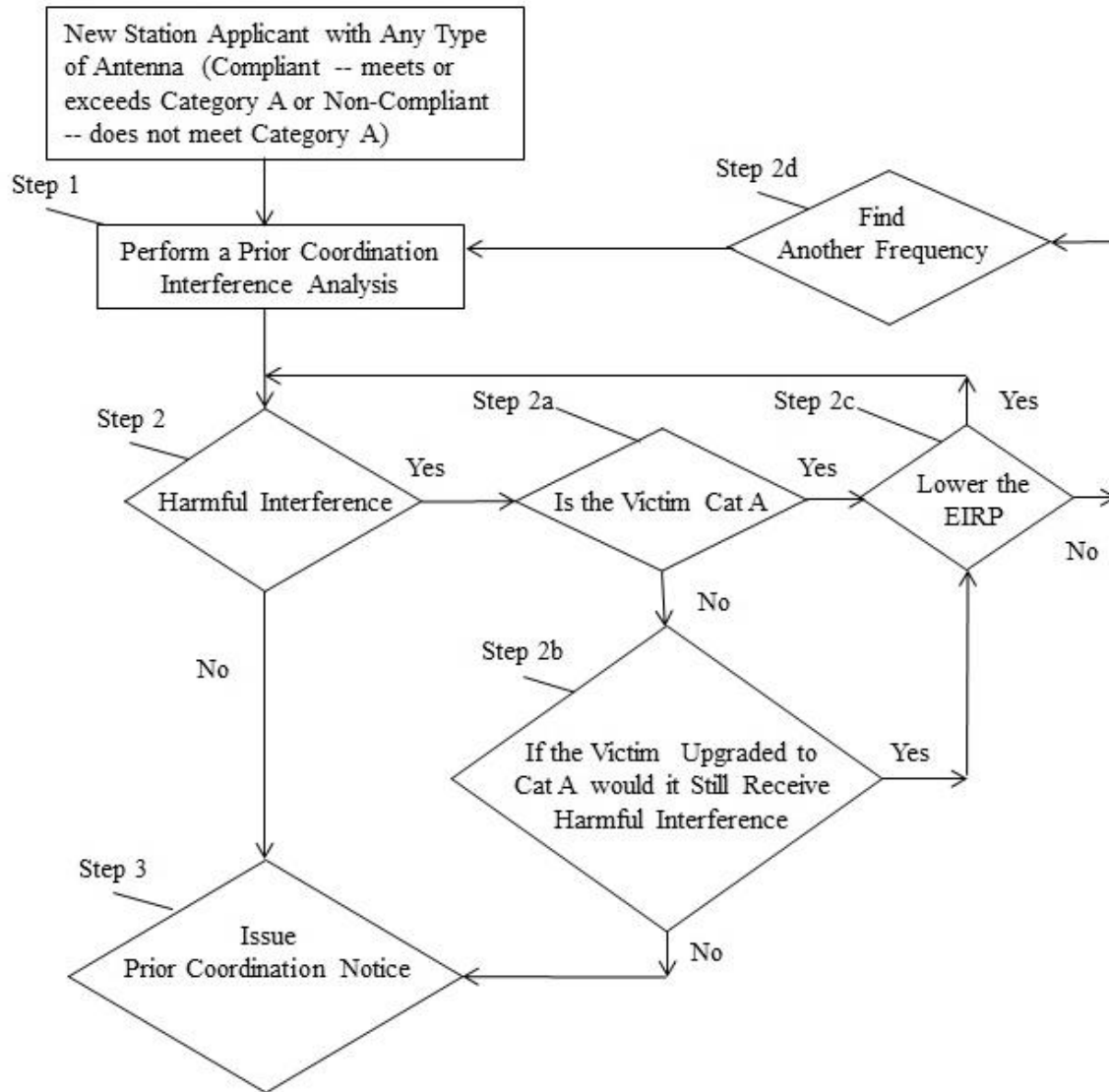
Appendix

Review of existing rules from WSI's ex parte filing of January 28, 2013.

A review of the existing rules and procedures for obtaining a license are displayed in the attached decision tree diagrams, Figures 1 and 2.

A walk-through of Figure 1 is given below.

Figure 1: Initial Prior Coordination Successful/Unsuccessful



Step 1.

The new applicant, with any type of antenna, performs a prior coordination interference analysis in accordance with Rule 101.103.

Step 2.

If the prior coordination interference analysis showed no interference issues, the applicant would proceed to Step 3 and issue a Prior Coordination Notice (PCN).

If the prior coordination interference analysis showed there was harmful interference, the applicant would proceed to Step 2a.

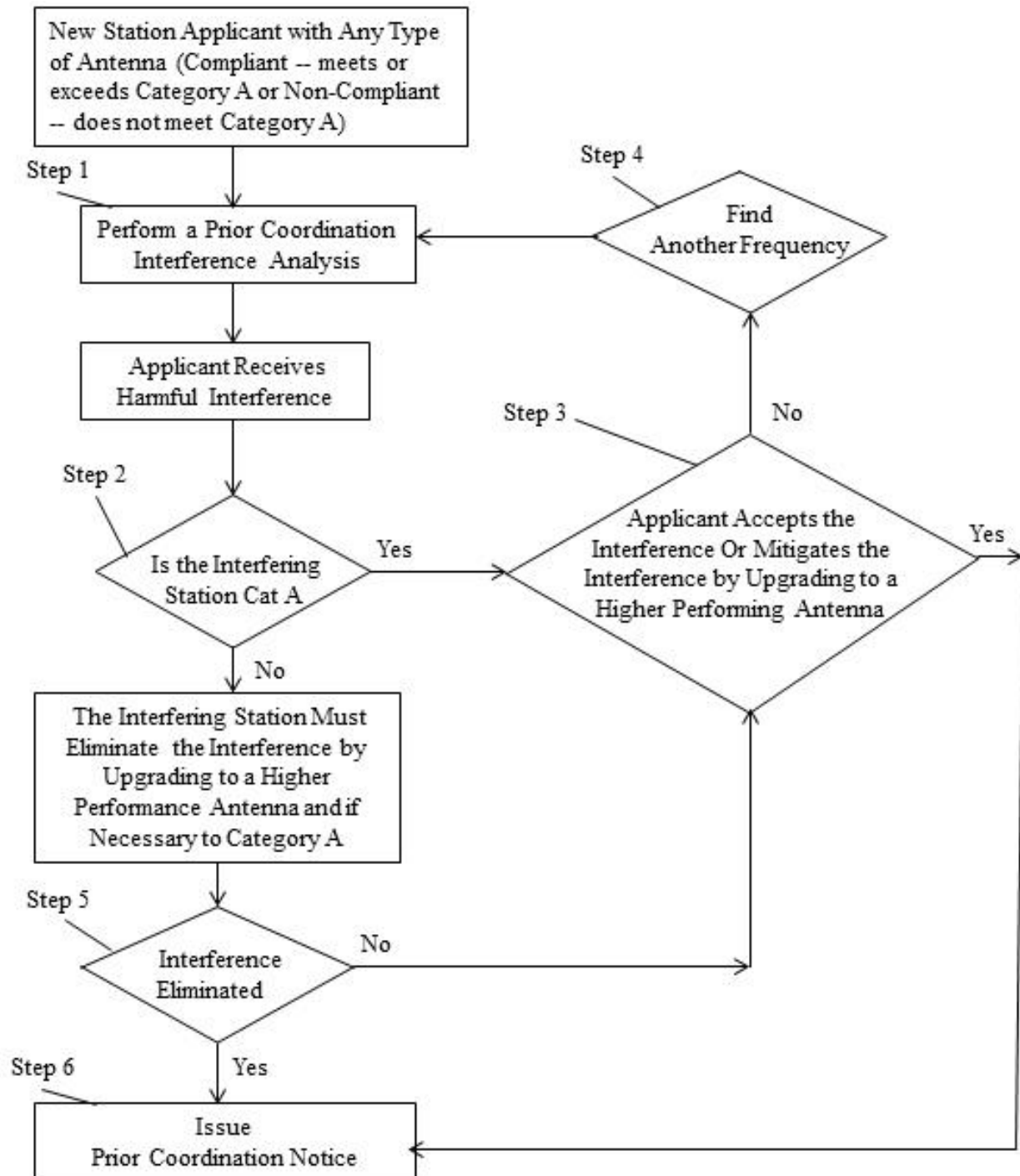
Step 2a.

If the victim station(s) were authorized with compliant (Category A) antennas, the applicant would proceed to Step 2c where the applicant would have to decide if the interference could be eliminated by increasing the applicant's antenna performance (size) or by reducing the power applied to the antenna (or both), and still meet the new applicant's path performance and/or cost requirements. If yes, the applicant would proceed via Step 2 to Step 3 and issue a PCN. If the answer was no, the applicant would proceed to Step 2d and find another frequency before returning to Step 1.

If the victim station were authorized with a non-compliant antenna, the victim would, as required by Rule 101.115 (c), have to upgrade the antenna performance, if necessary to Category A. If this eliminated the interference issue, the applicant would proceed to Step 3. However, if the victim upgraded to a Category A antenna and the interference still existed, the applicant would proceed to Step 2c. If at Step 2c the applicant could not lower the EIRP and meet the applicant's path performance and/or cost requirements, the applicant would have to proceed to Step 2d and choose another frequency before returning to Step 1.

The case where the new applicant has shown through the prior coordination process that it will not *cause* harmful interference, but that it would *receive* harmful interference, is addressed in Figure 2. A walkthrough of Figure 2 is given below.

Figure 2: Applicant Does Not Cause Interference but Receives Interference



Step 1.

The new applicant, with any type of antenna, performs a prior coordination interference analysis in accordance with Rule 101.103. The prior coordination interference analysis shows interference into the applicant's receiver. The applicant proceeds to Step 2.

Step 2.

The applicant determines if the interfering station is authorized with a compliant (Category A) or a non-compliant antenna. If a Category A antenna, the applicant proceeds to Step 3.

Step 3.

Applicant must either accept the interference or attempt to mitigate the interference by upgrading to a higher performance (larger) antenna. If the applicant can accept the interference or can accept a larger antenna then the applicant proceeds to Step 6 (Issue PCN). If the applicant cannot accept the interference or a larger antenna, the applicant must proceed via Step 4 (Find Another Frequency) to Step 1.

If at Step 2 the interfering station was determined to be authorized with a non-compliant antenna, the applicant proceeds to Step 5 -- as, pursuant to Rule 101.115 (c), the non-compliant station is required to upgrade the antenna performance, and if necessary upgrade to Category A. If the interference is eliminated, the applicant proceeds to Step 6 and issues a PCN. If the interference is not eliminated with a Category A antenna, the applicant proceeds to Step 3.

A review of the Rules using the decision tree flow diagrams shows that non-compliant antennas with any antenna pattern and size can be safely used under existing Rules 101.103 and 101.115.